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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/891,726	06/26/2001	Juha M. Heikkila	872.0043.USU	1368
29683	7590	06/02/2006	EXAMINER	
HARRINGTON & SMITH, LLP 4 RESEARCH DRIVE SHELTON, CT 06484-6212			NGUYEN, DUNG X	
			ART UNIT	PAPER NUMBER
			2611	
DATE MAILED: 06/02/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/891,726

Applicant(s)

HEIKKILA, JUHA M.

Examiner

Dung X Nguyen

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 3 and 5 - 8 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 26 June 2001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments filed on October 31, 2005 have been fully considered and are persuasive. However, upon further consideration, a new ground(s) of rejection is made.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1, 2, 5, 6, and 8 are rejected** under 35 U.S.C. 102(e) as being anticipated by Harrison (US patent # 6,424,178 B1).

Regarding claim 1, Harrison discloses (figures 1, 2, 3, abstract, column 1, line 64 to column 2, line 13 and column 21, line 47 to column 3, line 3):

- An input node for receiving the clock signal (CLK-IN in figures 1,2, 3);
- An output node (CLK-OUT in figures 1, 2, 3) for outputting a processed clock (12) having a first edge that is synchronized and second edge that is varied so as to provide a predetermined processed clock signal duty cycle (column 1, lines 51 – 56). Note that the examiner interprets a first edge of the CLK-IN is synchronized to an edge of CLK-OUT (because the delay between CLK-IN and CLK-OUT is a fixed delay, see for example, the falling edge at 800n of CLK-IN and the falling at 833n edge of

CLK-OUT in figure 3). Also, note that although figure 3 of the instant application shows that the rising edges of CLK-IN and CLK-OUT occur at the same time, it is understood that there would be a fixed delay caused by the inherent delay introduced by the elements 310 and 312 shown in figure 2.

Regarding claim 2, as followed by the limitations analyzed in claim 1, Harrison further discloses wherein the predetermined duty-cycle is a nominally 50-50 duty-cycle (column 1, lines 51 – 56 and column 3, lines 23; CLK-OUT in figure 3).

Regarding claim 5, the limitations are analyzed in the same manner set forth as claim 1.

Regarding claim 6, as followed by the limitations analyzed in claim 5, the limitations are analyzed in the same manner set forth as claim 2.

Regarding claim 8, as followed by the limitations analyzed in claim 5, Harrison further shows wherein the first edge of the process edge is a rising edge that is synchronized to a rising edge of the clock signal (see figure 3, note that there is a fixed delay between the rising edges of CLK-IN and CLK-OUT when the rising edge is considered as the first edge, see for example, the rising edge at 815n of CLK-IN and the rising edge at 858n of CLK-OUT).

4. **Claims 3 and 7 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Harrison (US patent # 6,424,178 B1), and further in view of Alderton (US patent # 6,263,192 B1).

Regarding claim 3, as followed by the limitations analyzed in claim 1, Harrison teaches the claimed invention, including the duty cycle correction system may be used in a variety of devices (column 7, lines 34 – 35). However, Harrison does not specify the device may be a baseband circuitry of a wireless communication terminal.

However, Alderton discloses (figure 10) coupling a 50% duty cycle clock (column 9, line 56) to baseband circuitry (3 in figures 1, 3, 4, 5A, 5B, 10 of Alderton).

Art Unit: 2611

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the duty cycle correction of Harrison into Alderton's device because Harrison's system has the advantage of controlling duty cycle of a clock in a manner that is not affected by variations in power supply voltage or electrical characteristics of circuit components (column 1, lines 51 – 54 of Harrison).

Regarding claim 7, as followed by the limitations analyzed in claim 5, the limitations are analyzed in the same manner set forth as claim 3.

Allowable Subject Matter

5. **Claim 4 is objected** to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung X. Nguyen whose telephone number is (571) 272-3010. The examiner can normally be reached on Monday through Friday from 8:00 AM to 17:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Fan, Chieh M. can be reached on (571) 272-3042. The fax phone numbers for this group is (571) 273-3021.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

DXN

May 22, 2006


CHIEH M. FAN
SUPERVISORY PATENT EXAMINER